Patent claims

1. A pigment epithelial cell of the eye, which comprises vector DNA of an adenoviral vector with large DNA capacity.

2. A pigment epithelial cell of the eye as claimed in claim 1, which is a retinal pigment epithelial cell or an iris pigment epithelial cell.

3. A pigment epithelial cell of the eye as claimed in claim 1, where the vector DNA comprises at least one therapeutic nucleic acid, in particular a therapeutic gene, preferably for a neurotrophic factor such as GDNF, PEDF, NGF, BDNF, CNTF, bFGF or neurotrophin 3,4-5, an antiangiogenetic factor such as a soluble VEGF receptor-1 (sflt-1), a dominant-negative VEGF receptor-2 (KDR) or PEDF, an antioxidative factor such as superoxide dismutase, catalase or various peroxydases, a lysosomal factor such as alpha-mannosidase, beta-galactosidase, N-acetyl-beta-glucosaminidase, N-acetyl-beta-galactosaminidase, and lipase, or a vasodilating factor such as NO synthase.

4. A pigment epithelial cell of the eye as claimed in claim 1, where the vector DNA comprises a constitutively active, regulatable and/or a tissue-specific promoter and/or a regulatable expression system.

5. A pigment epithelial cell of the eye as claimed in claim 1, where the cell produces at least one therapeutic protein and/or a therapeutic RNA.

6. A pigment epithelial cell as claimed in claim 1, where the cell is in a fixed assemblage of cells and/or has been cultivated in the presence of a feeder layer and/or in serum-free medium.

7. A pigment epithelial cell of the eye in the form of a fixed assemblage of cells.

8. A cultivation system comprising at least one pigment epithelial cell of the eye and a feeder layer.

9. A method for producing a pigment epithelial cell of the eye as claimed in claim 1, which comprises genetically modifying the cell with the aid of an adenoviral vector with large DNA capacity.

10. A method for producing a pigment epithelial cell of the eye as claimed in claim 1, which comprises cultivating the cell in serum-free medium and/or in the presence of a feeder layer.

11. A method for producing pigment epithelial cells of the eye in the form of a fixed assemblage of cells as claimed in claim 7, which comprises separating the assemblage of cells, in particular enzymatically, from surrounding tissue.

12. A method for producing pigment epithelial cells, which comprises cultivating the cells in a cultivation system as claimed in claim 8.

13. A method of treating an eye disease, in particular of AMD, a glaucoma, diabetic retinopathy or a genetic disease of the pigment epithelium, which comprises using a pigment epithelial cell as claimed in claim 1.

14. A method of treating an eye disease, in particular of AMD, a glaucoma, diabetic retinopathy or a genetic disease of the pigment epithelium, which comprises using a pigment epithelial cell as claimed in claim 7.

15. A method of treating as claimed in claim 13 or 14, where the pigment epithelial cell is transplanted into the eye, in particular the choroid, into the papilla and/or into the vitreous.

16. A method of treating a nerve disease, in particular a disease of the nervous system, preferably of the CNS, especially of Parkinson's disease, which comprises using a pigment epithelial cell.

17. The method of treating as claimed in claim 16, wherein the pigment epithelial cell is a pigment epithelial cell as claimed in claim 1.

18. The method of treating as claimed in claim 16, wherein the pigment epithelial cell is transplanted into the nervous system, in particular the CNS.

19. The method of treating as claimed in claim 13 or 14, wherein the pigment epithelial cell is an autologous pigment epithelial cell.

20. The method of treating as claimed in claim 16, wherein the pigment epithelial cell is an autologous pigment epithelial cell.

21. A medicament or diagnostic aid comprising a pigment epithelial cell of the eye as claimed in claim 1 and other excipients and/or additives.